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Version Updates In Notes

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- Users of this publication are encouraged to submit comments and recommendations to improve the publication. Comments should include the version number, page, paragraph, and line(s) of the text where the change is recommended. The proponent for this publication is the United States Army Center for Health Promotion and Preventive Medicine (USACHPPM). Comments and recommendations should be forwarded directly to:
Commander, USACHPPM, ATTN: MCHB-CS-OHI, 5158 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010--5403, or by using the E-mail address on the USACHPPM website at:
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EXERCISE COBRA GOLD

2004 PREVENTIVE MEDICINE BRIEFING

Presenter's Name

Presenter's Command

Local Contact Information



Prepared by:
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AGENDA

- Purpose
- Background
- Review of Guide to Staying Healthy
- Preparation for Deployment
- Deployment
- Medical Threat
- Country Profile
- Leader Responsibilities
- Post Deployment
- Summary
- Conclusion
- Exercise Scenario (Backup Slides)



PURPOSE

Inform Personnel Deploying to
Exercise Cobra Gold 2004 of
the Potential Health Hazards
and the Individual
Countermeasures Necessary to
Assure Personal Safety and
Health



BACKGROUND

- US Forces are deploying in support of Cobra Gold 2004
- Environmental, safety, and occupational health hazards are a potential medical threat to deployed personnel



Historical accounts of wars, battles, and military training consistently relate that the greatest loss of forces was not caused by combat wounds – rather the majority of losses were the result of disease and non-battle injuries (DNBI).

BACKGROUND

The Armed Forces of Thailand, Singapore and the United States will conduct the 23rd Exercise Cobra Gold in Thailand 13-27 May 2004. Cobra Gold 2004 is a regularly-scheduled joint/combined exercise and is the latest in the continuing series of U.S. - Thai military exercises designed to ensure regional peace and strengthen the ability of the Royal Thai Armed Forces to defend Thailand or respond to regional contingencies.

GUIDE TO STAYING HEALTHY

GTA 08-05-062

- Unfold YOUR *Guide to Staying Healthy*, Graphic Training Aid - GTA 08-05-062
- Personal Protective Measures (PPM)
 - Individual Countermeasures
- Reference Guide for this Briefing



This guide is for use by all active/reserve component military, civilian, retiree, and contractor personnel. Anyone who trains for, or participates in any type of military operation should keep and refer to this guide.

PREPARING TO DEPLOY

- Medical, Dental & Vision Screening (Soldier Readiness Processing)
- Prepare clothing and gear and personal hygiene items
- Complete Pre-deployment Health Assessment (DD Form 2795)
- Immunizations and chemoprophylaxis
 - Begin malaria chemoprophylaxis when directed by medical authority



During medical screening, discuss prescribed medications with the examiner; obtain at least a 90-day supply of medications

PREPARING TO DEPLOY

ADDITIONAL PACKING ITEMS:

- Cotton underwear (10 changes)
- Birth control supplies
- Personal hygiene products
- Anti-fungal cream/powder & shower shoes
- DEET insect repellent, sunscreen, eye and hearing protection



If you need medications or hygiene items which may not be available through normal supply systems, obtain a six-month supply, or enough for the duration of the operation

PREPARING TO DEPLOY FEMALE CONSIDERATIONS

- Birth control pills
- Feminine hygiene products (non-deodorant tampons, sanitary napkins, panty liners; menstrual cramp reliever)
- Yeast infection medication (two courses of vaginal treatment)
- Portable Urinary Device
 - For use by female personnel to reduce time needed to urinate and resolve privacy issues when latrines are not available (convoys, field operations)

If using birth control pills, continue as prescribed to regulate menstrual cycles and avoid problems resulting from

inconsistent use

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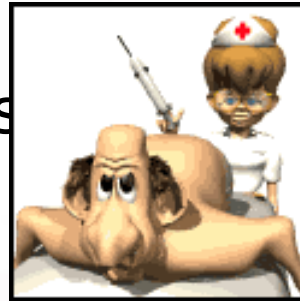
PREVENTIVE MEDICINE COUNTERMEASURES

- Medical Tests – All Personnel
 - PPD – Purified Protein Derivative (TST – Tuberculin Skin Test)
 - Within 12 months prior to deployment
 - **AND** at time of redeployment
 - **AND** again between 3-6 months after redeployment
 - HIV – Human Immunodeficiency Virus
 - Within 6 months prior to deployment
 - G6PD - Glucose-6-Phosphate Dehydrogenase
 - Prior to taking Primaquine (anti-malarial drugs are contra-indicated for G6PD deficient individuals)



IMMUNIZATION REQUIREMENTS

- All Personnel
 - Hepatitis A
- Typhoid
 - Tetanus-diphtheria
 - Influenza
 - Measles, mumps, rubella (MMR)
 - Polio
 - Japanese Encephalitis
- Selected Personnel
 - Hepatitis B (medics, MPs, firefighters, combat lifesavers)
 - Rabies (occupational risk of exposure)
 - Pneumococcal (asplenic personnel)
 - Anthrax (as directed)



MALARIA CHEMOPROPHYLAXIS*

- Doxycycline or malarone are the preferred antimalarial drug regimen because of mefloquine-resistant malaria in the country
- Primaquine terminal prophylaxis (14 days) for all redeploying person except G6PD deficient individuals



*The requirement for chemoprophylaxis and the type of drug prescribed by your health care provider will be based on the area you are deploying to and your medical condition

FIELD SANITATION TEAM

- Field Sanitation Teams (FST) train service members in Preventive Medicine Measures (PMM) and advise the commander and unit leaders on implementation of unit-level PMM.
- Know who the members of your Field Sanitation Team are PRIOR to deployment
- The FST can assist in preventing medical threats to your health
- Become familiar with FST equipment and training



Failure to apply the principles of PMM can result in mission

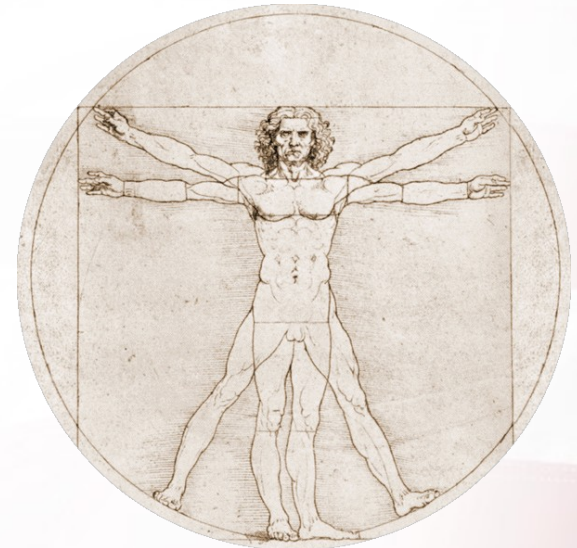
DEPLOYMENT HEALTH CARE

- Know where to seek health care when deployed
- May not be through same channels as your home station
- Maintain your health and seek care whenever an illness or injury occurs



MEDICAL THREAT

- Personal Health
- Operational Stress
- Environmental Threat
- Endemic Diseases
- Occupational Threat
- Non-Battle Injuries/Operational Safety



PERSONAL PROTECTIVE MEASURES

- Wash hands frequently
- Do not rub eyes or inside of nose with bare finger
- Bathe/shower regularly (field expedients will do); use unscented products
- Wear shower shoes to prevent athlete's foot
- Dry thoroughly after showering
- Sleep head-to-toe if billeted in common areas
- Wear clean, dry uniforms; change socks daily and uniform at least weekly
- Do not wear nylon or silk undergarments; cotton undergarments are more absorbent and allow the skin to dry
- Seek prompt medical care if problem exists



ORAL HEALTH

- Deploy with:
 - Toothbrush
 - Dental Floss
 - Fluoride Toothpaste
- Brush twice daily
 - Daily in difficult tactical environments
- Floss daily
- Seek medical attention at the onset of any dental problems



NUTRITION

- Drink fluids continuously (hourly fluid intake should not exceed 1.5 quarts)
- Maintain weight; do not avoid food or attempt weight loss during a deployment
- Work in cold weather can increase energy needs by 10-25%
- Operations in high-altitude areas can increase energy needs by 50% or more



SPORTS/TRAINING INJURIES

- Unit training program
 - Physical Training (PT)
 - Military Training
- Sporting activities
 - Avoid “tackle” sports
 - Wear safety equipment (eye and mouth protection during recreational activities)



Sports activities can result in injuries - some minor, some serious, and still others resulting in lifelong medical problems

MOUTH GUARDS

Use Them



OR

Lose Them



SEXUAL ACTIVITY

- Abstinence is the only 100% effective method for preventing sexually transmitted diseases
- Choose an effective method of birth control
 - Always use condoms during sex – regardless of other measures you choose. Using latex condoms during each sexual encounter provides improved (not 100%) protection against STD's and pregnancy.



SPIRITUAL HEALTH

- Maintain personal prayer/meditation
- Obtain and read wholesome religious/spiritual literature
- Attend religious/spiritual group discussions/studies
- Process anger, fear, anxiety & guilt through personal and group spiritual/religious activities
- Keep in touch with spiritual advisors/chaplains



STRESS

~~STRESS~~

- Operational stressors
- Different types and intensities
- Recognize the symptoms of depression
- Seek or encourage help
- Take steps to reduce operational stress

Stress can be intensified for personnel who are exposed to or observe human suffering and/or death

IMPROVE RESISTANCE TO STRESS

- Fear and physical signs or symptoms of stress are normal reactions before and during combat or other dangerous/life-threatening situations
- Talk about what is happening with your buddies
- Learn ways to relax quickly
- Quickly integrate new replacement
- If you must join a new group, be active in establishing friendships
- Give each other moral support
- Care for your buddies and work together



HEAT INJURY PREVENTION

- Heat Cramps, Exhaustion, or Stroke

COUNTERMEASURES

- Drink fluids continuously (hourly fluid intake should not exceed 1.5 quarts, daily fluid intake should not exceed 12 quarts)
- Maintain acclimatization
- Protect yourself from exposure to sunlight and wind
- Maintain good physical condition
- Establish work/rest schedules
- Wear proper clothing
- Participate in training



You should receive annual unit training on prevention of heat injury. Heat injuries are preventable!

HEAT

H: Heat category – WBGT Index

E: Exertion level

A: Acclimatization

T: Tables – Water/Work/Rest

REMEMBER

Water requirements are not reduced by any form of training or acclimatization.

Units which have soldiers who do not drink because they do not have opportunities to urinate have a leadership problem.

HEAT INJURY PREVENTION

Fluid Replacement Guidelines for Warm Weather Training (Applies to average heat acclimated soldier wearing BDU, Hot Weather)

Heat Category	WBGT Index, °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest	Water Intake, Qt/hr	Work/Rest	Water Intake, Qt/hr	Work/Rest	Water Intake, Qt/hr
1	78-81.9	NL	1/2	NL	3/4	40/20 min	3/4
2 (Green)	82-84.9	NL	1/2	50/10 min	3/4	30/30 min	1
3 (Yellow)	85-87.9	NL	3/4	40/20 min	3/4	30/30 min	1
4 (Red)	88-89.9	NL	3/4	30/30 min	3/4	20/40 min	1
5 (Black)	> 90	50/10 min	1	20/40 min	1	10/50 min	1



- The work rest times and fluid replacement volumes hydration volumes will sustain performance for at least 4 hours of work in the specified heat category. Individual water needs will vary approx ¼ qt or 8 ounces per hour.
- NL= no limit to work time per hour.
- Rest means minimal physical activity (sitting or standing), accomplished in shade if possible.
- **CAUTION: Hourly fluid intake should not exceed 1.5 quarts.**
Daily fluid intake should not exceed 12 quarts.
- Wearing body armor adds 5 degrees Fahrenheit to WBGT Index
- Wearing MOPP overgarment add 10 degrees Fahrenheit to WBGT Index.

SUNBURN

- Prevent overexposing skin and eyes to solar radiation and wind

COUNTERMEASURES

- Use sunscreen and lip balm
- Use sun/UV protective eyewear.
- Limit exposure



• Sunburn reduces soldier readiness and increases the likelihood of skin cancer.

CARBON MONOXIDE

- Carbon monoxide (CO) is a colorless, odorless, and tasteless gas produced by engines, stoves, and gas/oil heaters.
- CO replaces oxygen in the body, causing headache, sleepiness, coma, and death.



COUNTERMEASURES

- Keep sleeping area windows slightly open for ventilation and air movement.
- DO NOT sleep in vehicles with the engine running or use engine exhaust for heat.
- DO NOT park vehicles near air intakes to tents, trailers, or environmental control units.

Do not use unapproved commercial off-the-shelf heaters.
Check with your Unit Safety Officer.

FOODBORNE AND WATERBORNE DISEASES

- Diarrhea
- Hepatitis A
- Brucellosis



- Typhoid Fever
- Chemicals/Pesticides
- Heavy Metals

COUNTERMEASURES



- Do not consume any food, ice, water, or beverage (to include bottled water) that has not been approved by the U.S. military
- Assume all non-approved food, ice,

and water is contaminated

Diarrhea is the number one illness U.S. forces have during Cobra Gold each year (30-40% of exercise participants)

VECTOR-BORNE THREATS



Ticks

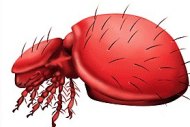


Mosquitoes

S



Fleas



**Chigger
Mites**



Lice

not to scale

Your Medical Authority will provide guidance on the specific threat and countermeasures for your deployment location

PERSONAL PROTECTIVE MEASURES



**Permethrin
On
Uniform**



**DEET On
Exposed
Skin**



**Properly
Worn
Uniform**

**MAXIMUM
~~PRO~~TECTION**



DOD Insect Repellent System

YOU NEED TO KNOW...

Dry cleaning removes permethrin from the uniform

INSECT REPELLENTS FOR SKIN AND CLOTHING

DEET lotion



NSN 6840-01-284-
2002



- Apply a thin coat to EXPOSED skin

- One application lasts up to 12 D

Permethrin

- Individual Dynamic Absorption Kit (IDA)
- Treatment lasts for for over 50 launderings



NSN 6840-01-345-
0237



NSN 6840-01-278-
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- Aerosol spray can
- Treatment lasts through 6 washes

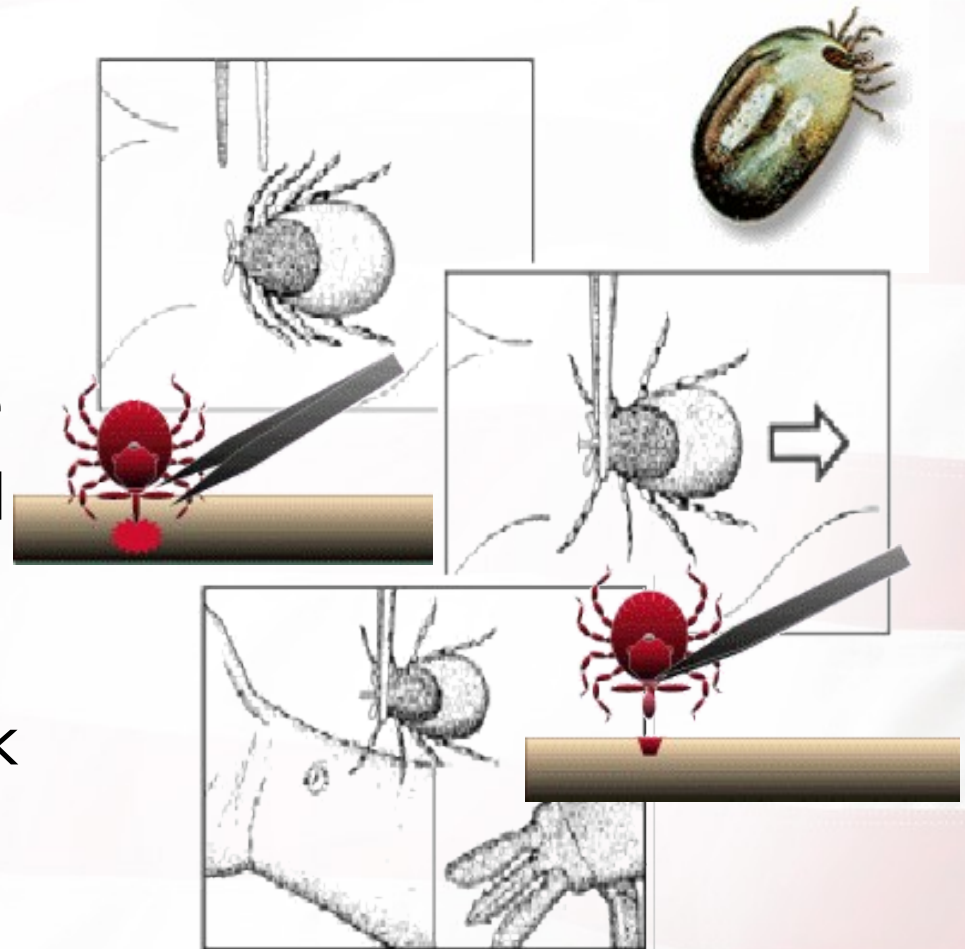
OTHER INDIVIDUAL COUNTERMEASURES

- Wash and inspect your body for insects, ticks and bites daily
- Use buddy system to check clothing routinely
- Launder uniform routinely to remove insects and eggs
- Use a bed net while sleeping
 - Spray the outside of the net with permethrin
 - Tuck edges under cot or sleeping bag
 - Don't let net touch your skin while you sleep
 - Need a cot and four poles or a way to tie the net up



TICK REMOVAL PROCEDURES

- Use fine-tipped tweezers to grasp mouthparts
- Grasp mouthparts against skin surface
- Pull back slowly and steadily with firm tension
- Avoid squeezing tick
- Wash wound and apply an antiseptic



HAZARDOUS ANIMALS

- Rabies: wild dogs, cats, and other animals
- Ticks, fleas, mites: carried by rodents
- Rodents: contaminate food, damage equipment
- Monkeys: bites can transmit Herpes virus
- Leeches: secondary infections from attachment site



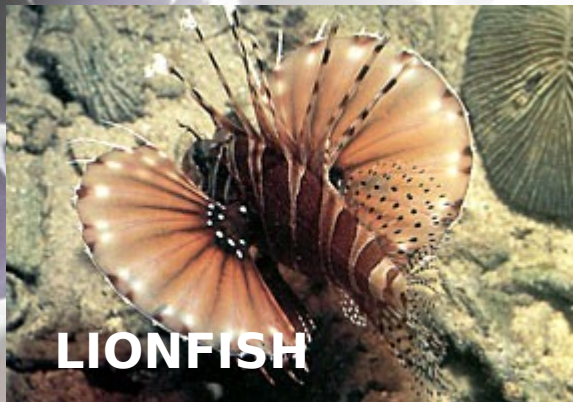
COUNTERMEASURES

- Do not feed, handle, or keep wild or stray animals as pets or mascots
- Do not tolerate the presence of rodents
- Maintain a high state of sanitation
- Avoid inhaling dust when cleaning unoccupied areas (avoid dry sweeping)
- Seek medical attention for animal bites or scratches



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HAZARDOUS MARINE ANIMALS



LIONFISH



CONESHELLS



SHARKS



SEA SNAKES



SEA URCHINS



CORALS/ANEMONES

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VENOMOUS ANIMALS

- Snakes: Pit vipers, cobras, kraits, keelbacks, and coral snakes
- Bees, wasps, hornets, and ants
- Spiders, centipedes, scorpions (none are known to be life-threatening)
- Rove beetles and millipedes (secrete blistering agents)



COUNTERMEASURES

- Avoid bees, hornets, wasps, ants, and spiders
- Assume ALL snakes are poisonous
- Do not attempt to handle or capture any snakes
- Shake out clothes, shoes, and bedding before use
- Wear foot protection at all times (no barefoot)
- Bring proper medication if allergic to bites/stings

VENOMOUS SNAKES



KING COBRA



BLACK COBRA



CORAL SNAKE



KRAIT



KEELBACK



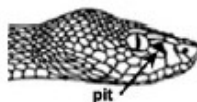
PIT VIPERS



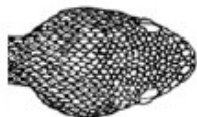
PIT



Long, hinged fangs that tuck into roof of mouth when not in use.



Vertically elliptical eye pupils; pit vipers with heat sensing organ between eye and nostril.



Broad triangular head very distinct from narrow neck.

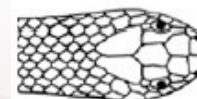
COBRAS/KRAITS/CORAL SNAKE



Short fangs fixed in erect position in front of mouth.



Round eye pupils.



Head small and not distinct from the body.

HAZARDOUS PLANTS

- Plant resins cause contact dermatitis
- Poisonous roots, stems, leaves, and fruit
- Weeds and stinging nettles
- Thorny shrubs and trees



Poisonous Plants



Systemic



Elephant's Ear Plant



Mucuna pruriat



Rattan Palm

Thorny Plant

Punctures and Abrasions

COUNTERMEASURES

- Avoid touching unfamiliar plants
- Use clothing as protective barrier
- Rinse skin promptly after exposure

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Never eat any part of unfamiliar plants

ENVIRONMENTAL CONSIDERATIONS

- Consider environmental aspects of operations
- Properly manage hazardous material
- Properly dispose of hazardous and medical waste
- Prevent oil and fuel spills
- Clean vehicles at proper locations
- Respect cultural and historical property
- Protect natural resources and the terrain



ENVIRONMENTAL CONSIDERATIONS

- Hazardous Materials
- Hazardous Waste
- Medical Waste
- Refueling Points
- Spill Response
- Wastewater Discharge
- Decon Sites
- Latrines
- Burn pits
- Laundry and Bath
- Fuel Storage
- POL Storage
- Generators
- Special Wastes
- Burial Sites



ENVIRONMENTAL AIR POLLUTION

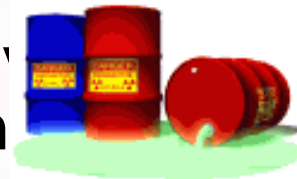
- Location of Air Pollution Source
 - Burning or Damaged Buildings
 - Open Burning/Waste Disposal
 - Vehicle/Generator Exhaust
- Industrial Facilities
- Contaminants
 - Dust, Silica, Asbestos, Lead
 - Organic Vapors and Organic Gases



Urban air pollution is Thailand's most severe environmental problem. Urban air contains high levels of suspended particulate matter produced by vehicle traffic, industry, construction, and open-air burning.

TOXIC INDUSTRIAL CHEMICALS/MATERIALS

- OCONUS threat exists from accidental or **intentional** release of TICs/TIMs.
- CAUTION - There are many uncommon/unknown TIC/TIM sources in an OCONUS setting.
- Become familiar with individual response technique, such as shelter in place, and any emergency warning systems (if applicable). Make sure other unit members are also aware.
- Protective measures are chemical specific – rely on trained personnel for recommendations.
- There is no one size fits all protective measures – this includes MOPP gear



TOXIC INDUSTRIAL CHEMICALS / MATERIALS

Personnel deployed in support of missions ranging from war to operations other than war may be exposed to harmful chemicals as a result of industrial accidents, sabotage, or the intentional or unintentional actions of enemy or friendly forces.

Example Catastrophic Toxicological or Physical Hazards for Industrial Sites, Balkan States



UNEXPLODED ORDNANCE

- No souvenirs
- Do not touch
- Can explode at any time



OCCUPATIONAL HEALTH PRE-DEPLOYMENT

- Current industrial hygiene review of operations
- Engineering controls
- Supply of required personal protective equipment (PPE)
- Hazard communication (HAZCOM) training
- Personal protective equipment training
- Current medical surveillance



OCCUPATIONAL HEALTH DEPLOYMENT

- Occupational health hazards
- Use control strategies
 - Eliminate or substitute
 - Engineering controls
 - Work practices and administrative controls
 - Personal protective equipment (PPE)
- Follow the PPE program requirements

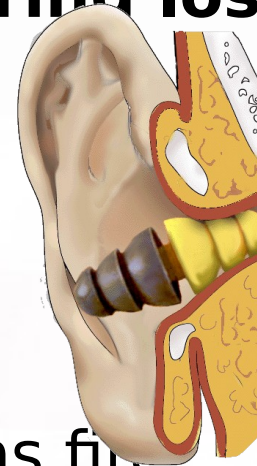


HEARING CONSERVATION

- Noise causes permanent hearing loss
- **Weapons fire can cause hearing loss instantly**

COUNTERMEASURES

- Have your hearing protection with you at all times and use it
- Wear green side out for weapons fire and yellow side out for steady noise
- Limit your time in noise to critical tasks only



Combat
Arms
Earplug

NSN 6515-
01-466-

2710



Authorized
wear

IAW AR 670-1

If you have to raise your voice to be understood, it is too

noisy
Put on hearing protection.

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VISION CONSERVATION

- **Preventive Measures and Eye Protection**
 - Contact lens use is prohibited for use in environments where exposure to smoke, toxic chemical vapors, sand, or dust occurs
 - If required, maintain two pair of glasses and one protective mask insert
 - Use eye protection when in any potentially eye hazardous environment
 - Safety goggles or spectacles with side shields*
 - Chemical splash goggles*



**Vision Ready is
Mission Ready!**

*(ANSI Z87.1 approved)

BLOODBORNE PATHOGENS

- Bloodborne pathogens (BBPs) pose a risk to unprotected personnel when exposed to human blood and other potentially infectious materials:
 - Body fluids
 - Tissues
 - Blood-saturated, dripping, or blood-caked clothing or equipment.
- BBPs Include:
 - Hepatitis B, C, D virus
 - Human immunodeficiency virus (HIV)
 - 23 other infectious diseases

PREVENTION OF BLOODBORNE INFECTION

- Personal Protective Equipment (PPE)
 - Gloves (Fluid-Proof)
 - Eyes and Face Protection
 - Body Protection
 - Head and Foot Protection



If you find yourself in a situation where you have to come in contact with blood or other body fluids and you don't have any standard personal protective equipment handy, you can improvise. Use a towel, plastic bag, or some other barrier to help avoid contact.

BLOODBORNE INFECTION PPE

- Rules to follow:



- Always wear personal protective equipment in exposure situations
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to bloodborne pathogens
- Replace PPE that is torn or punctured
- Remove PPE before leaving the work area

To protect yourself, it is essential to have a barrier between you and the potentially infectious material

BLOODBORNE INFECTION HYGIENE PRACTICES

- Hands or other exposed skin should be thoroughly washed as soon as possible following an exposure incident
- Hands should also be washed immediately (or as soon as feasible) after removal of gloves or other PPE
- If you are working in an area without an approved water source, you may use an antiseptic cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes



FIELD FACILITIES

CONTROL OF HAZARDOUS EXPOSURES

- Garrison facilities include engineering controls to control chemical exposures
- In the field, additional efforts are needed to provide the same level of control for these occupational exposures
- Install and use safety countermeasures



OCCUPATIONAL HAZARDS

- Exhaust from engines and fuel space heaters
- Gases from weapons firing
- Solvents used to clean weapons
- Chemicals and metals from painting vehicles and equipment
- Greases and oil from vehicle maintenance repair
- Detergents used to clean equipment
- Fuels and refueling operations
- Weapon systems: radiation energy, shock, vibration, noise



HAZARD ASSESSMENT TOP THREE

#1 Vehicle Accidents

**Congested roads,
speeding and fog.
Civilian vehicles on
roads increases risks.**



**Slips, trips, and falls.
Surfaces create
hazards.
Injuries to hands,
forearms,
and shins.**

#2 Personal Injuries

#3 Fires

**Improper re-fueling and
unattended fuel heaters
increase the risk of fire
in tents.**

MOTOR VEHICLE ACCIDENTS

- Motor vehicle accidents
 - Driver Qualifications
 - Maintenance
 - Ground Guides
- Special Precautions
 - Night/Night Vision Device Operations
 - Convoy Operations
 - Refueling Operations
 - Sand/Dust Storms and Fog



The most common cause of serious non-battle injuries and death. All personnel have a duty to intervene in the careless operation of a vehicle.

INJURY PREVENTION

- Slips, Trips, and Falls
- Sharp/Hot Objects
- Falling Objects
- Electrical Safety
- Back Safety
- Vehicle Safety



THAILAND: DISEASES OF OPERATIONAL IMPORTANCE

High-risk country for infectious diseases

HIGH RISK

Dengue Fever
Diarrhea (Bacterial)
Hepatitis A and B
Japanese Encephalitis
Leptospirosis
Malaria
Rabies

INTERMEDIATE RISK

Brucellosis
Chikungunya
Diarrhea (Protozoal)
Gonorrhea/ Chlamydia
HIV/AIDS
Q fever
Rickettsioses (Tickborne)
Schistosomiasis
Tuberculosis
Typhoid/Paratyphoid
Typhus (Murine and
Scrub)

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HIGH RISK DISEASES

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DENGUE FEVER

- Caused by virus obtained from mosquito bites
 - Increased risk of infection in urban areas
 - Increased risk May-October
- Symptoms
 - Sudden onset, high fever, severe headaches, joint and muscle pain, nausea/vomiting, and rash.
 - Illness may last up to 10 days, complete recovery may take 2-4 weeks
- Countermeasures
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net




Prevent mosquito bites

DIARRHEA

- Usually mild but uncomfortable disease caused by drinking water or eating food that contains bacteria or protozoa.
- If you consume local food or water in Thailand, diarrhea will almost always occur.
- Can be a symptom of **giardiasis, shigellosis, cholera, *e. coli* infection or malaria**


HEPATITIS A

- Cause - Putting something in the mouth that has been contaminated with the stool of a person with hepatitis A
- Symptoms - jaundice, fatigue, abdominal pain, loss of appetite, nausea, diarrhea, fever
- Countermeasures  Hepatitis A Vaccine
 - Short-term protection from immune globulin
 - Wash your hands with soap and water after using the bathroom, and before preparing and eating food.

HEPATITIS B

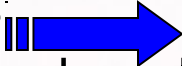
- Cause – Hepatitis B virus that attacks the liver
- Transmitted by direct contact with the blood or body fluids of an infected person
- Symptoms - jaundice, fatigue, abdominal pain, loss of appetite, nausea, vomiting, joint pain
- Countermeasures → Hepatitis B vaccine
 - use latex condoms correctly and every time you have sex
 - don't share personal care items that might have blood on them
 - follow routine barrier precautions and safely handle needles and other sharps

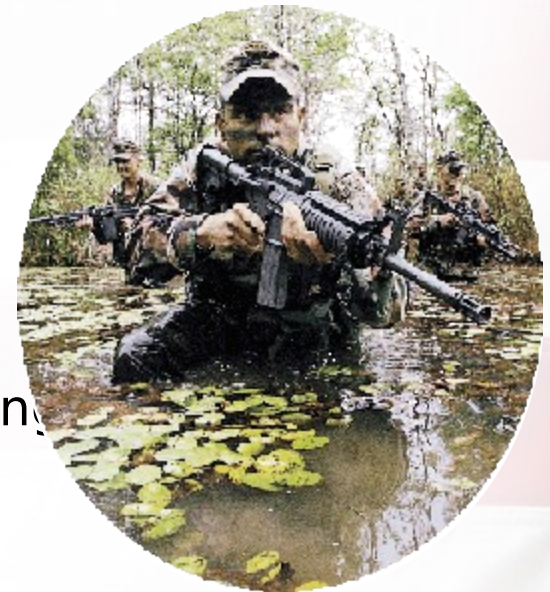
JAPANESE ENCEPHALITIS

- Caused by virus obtained from mosquito bites
 - Increased risk in northern rural areas
- Symptoms
 - Fever, headache, disorientation, and stupor
 - More severe symptoms possible
 - Fatality rate 5-10% or higher
- Countermeasures  Vaccination
 - Prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net




LEPTOSPIROSIS

- Caused by bacteria obtained from animal urine
 - Highest threat is skin contact with contaminated lakes, rivers, streams, or other water sources
 - Can acquire from food contaminated with rodent urine
- Symptoms
 - Fever, headache, muscle aches, vomiting, jaundice, anemia, and sometimes rash
 - Severe symptoms and death possible
- Countermeasures:  avoid water contact
 - Avoid swimming and wading in lakes, rivers, and streams
 - Treat with doxycycline



MALARIA

- Caused by parasite obtained from mosquito bite
- Symptoms
 - Fever and flu-like illness, chills, headache, muscle aches, and tiredness
 - Severe symptoms and death possible
- Countermeasures:  Take anti-malarial medications and prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin treated bed net



Malaria that is resistant to anti-malarial drugs can occur, it is critical that you prevent mosquitoes from biting you.

RABIES

- Caused by virus obtained from contact with saliva of infected animal
 - Infected animal can be any warm-blooded animal
- Symptoms
 - Fever, headache, tingling and discomfort at bite
 - Anxiety, confusion, agitation, delirium, abnormal behavior, hallucinations, and insomnia
 - Rabies is 100% fatal once symptoms develop
- Countermeasures → Avoid animal contact
 - Wash wound vigorously for 5 full minutes with soap and water, then seek medical care immediately.




Rabies is a *major* public health problem in Thailand, among the worst in the world. Rabies-infected dogs and cats are extremely common, with little effective public health control. Each year, over 100,000 people are reported to receive post-exposure prophylaxis, and rabies deaths occur regularly.

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INTERMEDIATE RISK DISEASES

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BRUCELLOSIS

- Cause - coming in contact with animals or animal products that are contaminated with *Brucella* bacteria
- Symptoms - fever, sweats, headaches, back pains, and physical weakness
- Countermeasure  Do not eat or drink local milk products

CHIKUNGUNYA VIRUS

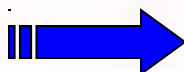
- Caused by virus obtained from mosquito bites
 - Increased risk May-October
 - Increased risk during / after rainy season
 - Increased risk in urban and village areas
- Symptoms
 - Sudden onset of fever, rash on trunk and limbs, back pain, and severe joint pain / arthritis in multiple joints
- Countermeasures
 - Prevent mosquito bites
 - Use the DOD Insect Repellent System
 - Sleep under a permethrin-treated bed net




GONORRHEA/ CHLAMYDIA HIV/AIDS

- Sexually transmitted diseases
- Infections can progress to serious reproductive and other health problems
 - Countermeasures → abstain from sexual intercourse
 - use latex condoms correctly and every time you have sex
 - annual screening test for chlamydia
- Thailand has Southeast Asia's highest HIV infection rate - 2.6% in 2002.
- AIDS has become the leading cause of death

Q FEVER

- Caused by bacteria in milk, urine, amniotic fluid, placenta and feces of infected animals. Infection of humans usually occurs by inhaling the bacteria in airborne barnyard dust.
- Only 50% of people show symptoms. High fevers, severe headache, general malaise, myalgia, confusion, sore throat, chills, sweats, non-productive cough, nausea, vomiting, diarrhea, abdominal pain, and chest pain.
- Countermeasure  Avoid infected animals

RICKETTSIOSES (TICK-BORNE)

- Caused by spotted fever group bacteria obtained from tick bites
 - Increased risk in rural areas
- Symptoms
 - Fever, rash, headache, fatigue, swollen glands, and muscle aches
 - More severe symptoms possible
- Countermeasures  Prevent tick bites
 - Use the DOD Insect Repellent System
 - Regularly examine clothing and skin for ticks; promptly remove attached ticks



RICKETTSIOSIS (TICK-BORNE)

(Spotted Fever Group)

- Caused by spotted fever group bacteria obtained from tick bites
 - Increased risk in rural areas
- Symptoms
 - High fever, severe headache, muscle, joint, or back pain, and rash involving palms and soles
 - Small, dark-centered ulcer at site of tick bite
- Countermeasures
 - Prevent tick bites
 - Use the DOD Insect Repellent System
 - Regular examination of clothing and skin for ticks; promptly remove attached ticks



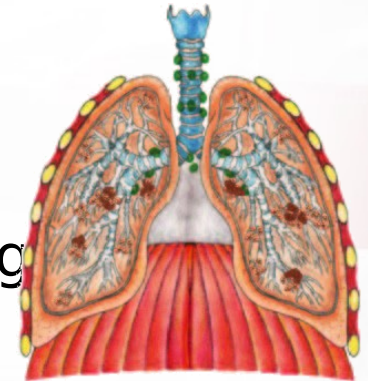
SCHISTOSOMIASIS

- **Cause** - Larvae excreted by snails that can penetrate human skin
 - Even brief exposure to contaminated fresh water such as wading, can result in infection
- **Symptoms** include fever, lack of appetite
- weight loss, abdominal pain, hematuria, weakness, headaches, joint and muscle pain, diarrhea, nausea, and cough
- **Prevention**
 - Don't wade or bathe in fresh water in areas where poor sanitation or snail infestations are present.
 - Heat bathing water to 50° C (122° F) for 5 minutes or treat it with iodine or chlorine.
 - Vigorously towel dry after accidental exposure to water. This may remove the larvae before they can penetrate the skin.




TUBERCULOSIS


- Caused by bacteria contracted from an infected person
 - Infected people release bacteria during coughing, sneezing, speaking, or spitting
- Symptoms
 - Cough, possibly with blood or sputum, chest pain, weight loss, night sweats, fever, and weakness
 - Severe symptoms and death possible
- Countermeasures Avoid unnecessary exposure to high-risk populations and buildings
 - Use N95 respiratory protection when directed



TYPHOID - PARATYPHOID FEVERS

- Caused by bacteria obtained from contaminated food and water
- Symptoms
 - Fever, severe headache, constipation, enlarged spleen, and rose spots on the trunk
 - Severe symptoms and death possible
 - Paratyphoid fever is milder
- Countermeasures  Vaccination
 - Consume only food, water, and ice approved by the U.S. military

ENDEMIC TYPHUS (Murine Typhus)

- Caused by rickettsia obtained from rodent fleas
 - Year-round risk
 - Increased risk in rodent-infested buildings
- Symptoms
 - Fever, headache, and/or rash for 1-7 days
- Countermeasures  Prevent flea bites
 - Use the DOD Insect Repellent System
 - Avoid rodent populations
 - Promptly remove fleas from clothing and skin



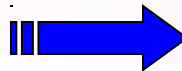
SCRUB TYPHUS

- Caused by rickettsia obtained from mites that live on rodents
 - Increased risk after heavy rain / flooding
 - Symptoms
 - Skin ulcer or “chigger bite” at site of mite attachment
 - Fever, headache, and profuse sweating
 - Dull red rash on trunk spreading to arms and legs
 - Severe symptoms and death possible
 - Countermeasures
 - Use the DOD Insect Repellent System
 - Avoid rodent populations
- Prevent mite bites



ANTHRAX

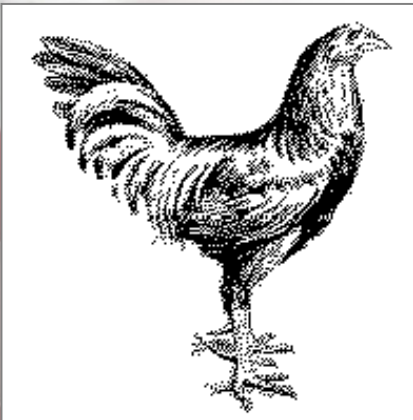
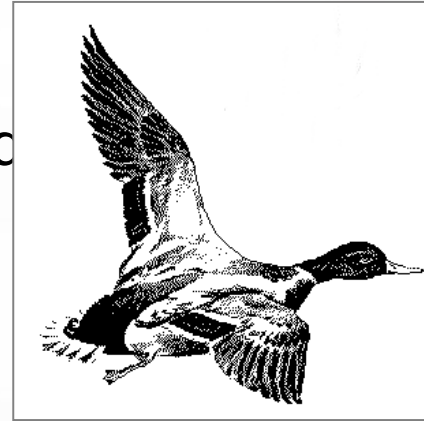
- Caused by a bacterium that forms spores, contracted by handling products from infected animals, or when anthrax is used as a weapon
- Symptoms
 - Cutaneous: Small sore that develops into a blister then into a skin ulcer with a black area in the center. The sore, blister and ulcer do not hurt.
 - Gastrointestinal: Nausea, loss of appetite, bloody diarrhea, and fever, followed by bad stomach pain.
 - Inhalation: Cold or flu-like symptoms, sore throat, mild fever and muscle aches. Later symptoms include cough, chest discomfort, shortness of breath, tiredness and muscle aches. About half of these cases result in death.
- Countermeasures
 - Treatment involves a course of antibiotics



Vaccination

AVIAN INFLUENZA

- Usually does not make wild birds sick, but can make domesticated birds very sick and kill them (also infects pigs, horses, seals and whales)
- Usually does not infect humans but the SYMPTOMS are: fever, cough, sore throat, muscle aches, eye infections, acute respiratory distress, viral pneumonia



- Countermeasure → Avoid sick birds and their droppings

Avoid sick

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MEDICAL THREAT



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OVERVIEW

- Thailand
 - Background
 - Environmental issues
 - Diseases of operational importance
- Primary information resources:
 - Central Intelligence Agency
 - The World Factbook 2001
 - Armed Forces Medical Intelligence Center



THAILAND



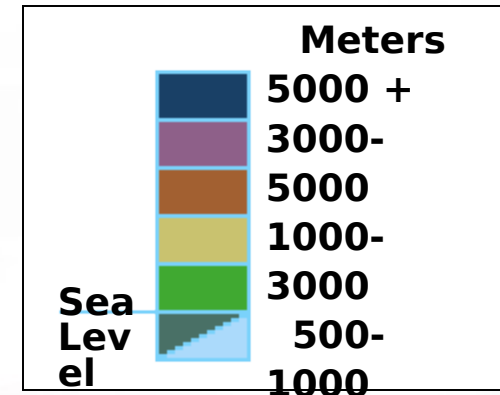
- Industrial Growth
- Environmental Challenges



Thailand: Environmental Issues

- Topography
- Climate

Tropical; rainy, warm, cloudy southwest monsoon (mid-May to September); dry, cool northeast monsoon (November to mid-March); southern isthmus always hot and humid



0-500
Depression

Terrain: central plain; Korat Plateau in the east; mountains elsewhere Elevation extremes:

***lowest point:* Gulf of Thailand 0 ft**

***highest point:* Doi Inthanon 8,500 ft**

Thailand: Environmental Issues

- Industries
 - Poor enforcement of environmental laws
- Air
 - Contamination from cars, industrial construction and open air burning
- Food
 - Contamination with fecal pathogens
- Soil
 - Localized contamination from industrial waste
- Water
 - Contamination from untreated domestic and industrial wastes



THAILAND “SNAPSHOT”

- Environmental Health Risks

- Contaminated food and water
- High heat and humidity
- Natural disasters
- Localized air pollution

- Infectious Diseases

- Dengue fever
- Diarrhea
- Hepatitis A and B
- Japanese encephalitis
- Leptospirosis
- Malaria
- Rabies

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HIDDEN SLIDE

LEADER

RESPONSIBILITIES

- USE THESE ADDITIONAL SLIDES WHEN BRIEFING UNIT LEADERS
- HIDE THESE SLIDES IF NOT USED

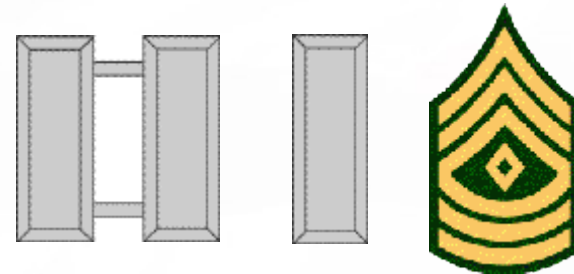
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LEADER RESPONSIBILITIES

- Company Level Unit Leaders:

- Commander
- Executive Officer
- First Sergeant



- Reduce the threat of Disease and Nonbattle Injury (DNBI) by staying informed of the medical threat
- Motivate, train, and equip subordinates prior to and during deployment to defeat the medical threat
- Work closely with Preventive Medicine personnel and emphasize the use of Preventive Medicine Measures (PMM) within your unit

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LEADER

RESPONSIBILITIES PRIOR TO DEPLOYMENT

- Meet with Field Sanitation Team (FST) members early and regularly to ensure requirements and guidance are clearly established and understood
- Ensure required field sanitation devices are on hand and operational (see FM 21-10)
- Ensure soldiers receive personal and organizational supplies and equipment packing guidelines for the AO and mission
- Reinforce command emphasis regarding prescribed immunizations, chemoprophylaxis, and pretreatments. Procure enough DEET, permethrin, bed nets, cots and poles for the unit. Treat uniforms and bed nets with permethrin.
- Eliminate rumors by ensuring information is passed down quickly and accurately

RESPONSIBILITIES DURING DEPLOYMENT

- Ensure, in coordination with the FST, the setup or construction and maintenance of showers, latrines, and handwashing devices
- Ensure drinking water supplies are from approved sources and the chlorine residual is maintained at the level established by the command medical authority
- Ensure all personnel drink adequate amounts of water to prevent dehydration and heat injuries
- Ensure personnel drink adequate amounts of water in cold weather to prevent dehydration; individuals can become dehydrated, even in cold weather

RESPONSIBILITIES DURING DEPLOYMENT

- Provide warm water for handwashing and personal hygiene
- Provide safe, well-ventilated sleeping, working, and recreational areas
- Enforce the use of individual PMM among your troops
- Ensure personnel use the DOD Insect Repellent System
 - DEET, permethrin on uniforms and bed nets, sleeves rolled down and pants tucked in even at night
- Monitor the heat index/wind-chill information regularly
 - Ensure personnel wear clothing in layers during cold weather operations and remove outer layers during work or exercise
 - Ensure personnel wear headgear to prevent body heat loss during cold weather
- Ensure personnel change their socks at frequent intervals to keep their feet dry and prevent heat or cold injuries

RESPONSIBILITIES DURING DEPLOYMENT

- Ensure personnel keep their sleeves rolled down and their headgear on during hot weather to prevent heat injuries
- Rotate personnel with outside exposure to extreme heat or cold (guard duty, maintenance, and observation post) to reduce the extreme temperature effects
- Ensure personnel are trained to use the equipment that they will be using during the mission
- Ensure personnel use approved solvents to clean unit equipment; not gasoline or other fuels
- Ensure personnel wear their ballistic and laser protective eyewear

RESPONSIBILITIES DURING DEPLOYMENT

- Ensure personnel wear safety goggles when operating vehicles or riding in the commander position with the windshield down and when riding in the back of open vehicles
- Ensure personnel turn off vehicle engines or vent exhaust fumes to the outside when repairing vehicles in enclosed areas
- Ensure personnel wear hearing protection when working in noise hazard areas
- Minimize contact with animals, especially rodents. Discourage pests by ensuring proper disposal of trash and elimination of food consumption or storage in living areas

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RESPONSIBILITIES DURING DEPLOYMENT

- Enforce malaria chemoprophylaxis (when indicated)
- Report all animal bites; reinforce awareness of rabies threat
- Ensure the FST performs its roles and responsibilities
 - Ensure that they have all required supplies and equipment
 - Ensure that they are trained in their duties
- Involve PM personnel in planning and preparation, including base camp site selection (air, soil, and water sampling)
- Request Preventive Medicine support for conditions that are beyond unit capabilities

RESPONSIBILITIES POST DEPLOYMENT

- Ensure unit receives post-deployment Preventive Medicine briefing
- Ensure unit completes post-deployment health assessment (if not done prior to leaving AOR)
- Reinforce command emphasis regarding continued use of chemoprophylaxis and medical screening
- Provide encouragement and support to soldiers during reunions
- Monitor soldiers for signs of illness, ensuring affected soldiers receive prompt medical attention
- Ensure FST materials are checked and restocked immediately upon return to the home station

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LEADER RESPONSIBILITIES

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POST DEPLOYMENT

- Complete Post-Deployment Medical Health Assessment (DD FORM 2796)
- Receive post-deployment preventive medicine briefing
- Receive post-deployment screening, testing, and follow-up
- Continue malaria chemoprophylaxis as prescribed
- Malaria terminal prophylaxis with daily primaquine for 14 days after departure

POST DEPLOYMENT

- Continue to seek counseling from Chaplain or medical personnel
- Homecoming Stress
 - Don't expect things to be exactly the same, especially if long deployment
 - Ease back into roles; don't rush it
 - Children may be withdrawn
 - Spouse may be moody or depressed
 - Financial and property issues may require immediate attention

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Discussion



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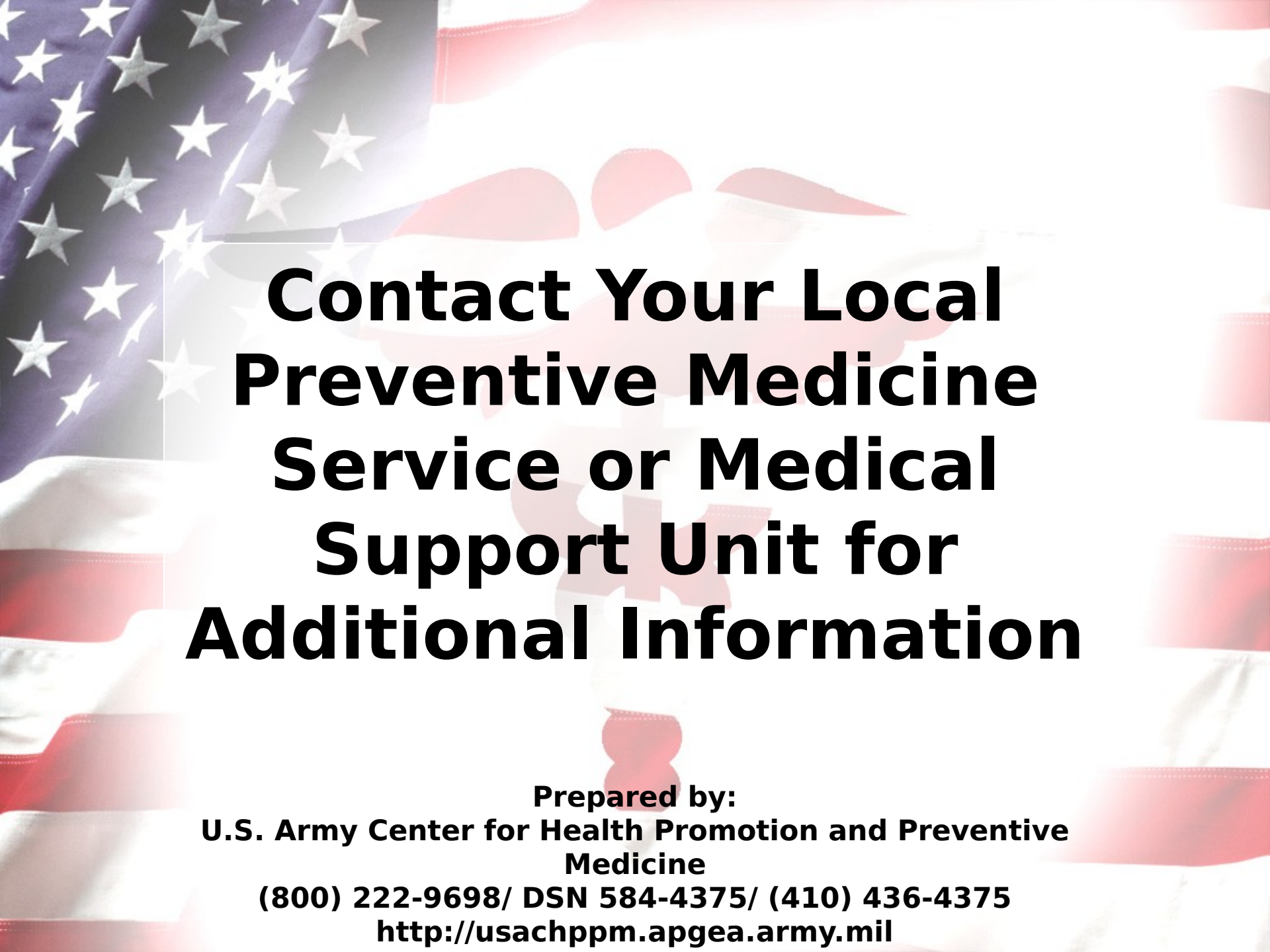
SUMMARY

- Review of *Guide to Staying Healthy*
- Preparation for Deployment
- Deployment
- Medical Threat
- Country Profiles
- Leader Responsibilities
- Post Deployment



CONCLUSION

- It is critical to all military missions that personnel (including combat, support, and sustaining base military and civilian forces) are aware of health threats and the countermeasures discussed in this briefing and the *Guide to Staying Healthy*. This information can be applied during all phases of military operations, including training, pre-deployment, deployment, and post-deployment.



Contact Your Local Preventive Medicine Service or Medical Support Unit for Additional Information

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